APPLICATION FOR EXCEPTION TO NEW MEXICO CONSERVATION COMMISSION ORDER NO. 250 & FINAL ORDER IN THIS CAUSE PROPOSED FOR ADOPTION ON AUGUST 29, 1940, COVERING

THE TEXAS COMPANY

W. T. Lanehart No. 1 - Langlie Field

Lea County, New Mexico

SUBJECT: APPLICATION FOR EXCEPTION TO NEW MEXICO CONSERVATION COMMISSION ORDER NO. 250 & FINAL ORDER IN THIS CAUSE PROPOSED FOR ADOPTION ON AUGUST 29, 1940, COVERING

THE TEXAS COMPANY
W. T. Lanehart No. 1
Langlie Field, Lea County,
New Mexico

EXHIBIT I - DETAILED WELL HISTORY

During the 35 month period, from completion in June 1936 to plug back operations in May 1939, the subject well produced a total of some 39,000 barrels of oil, or an average of approximately 37 barrels per day from the lower oil horizon. Prior to the plug back, neighboring wells had been producing large volumes of gas and substantial amounts of oil from the upper horizon subsequently opened in the subject well by perforating the inner 5-1/2" string of casing. Completion of the latter work-over disclosed the existence of the substantial gas reservoir from which the subject well has produced gas only since that time.

EXHIBIT II - CUMULATIVE PRODUCTION - WELLS PRODUCING FROM UPPER HORIZON IN NEIGHBORHOOD OF TTCo - W. T. LANEHART NO. 1 - LANGLIE POOL, LEA COUNTY, NEW MEXICO, FROM BEGINNING THRU 6/30/40

A study of completion data of wells in the vicinity of The Texas Company W. T. Lanehart No. 1 indicates that there are 19 wells producing from the upper horizon. Despite the substantial oil production of some of these wells, the ratio of reservoir space voided by production of actual, plus the very conservatively estimated volume of gas to that voided by oil produced is greater than 62 to 1. Recently observed bottom hole pressure in the subject well (1225# @ + 200' - 8/12/40) compared with nearby well producing substantial quantities of oil from same horizon (1070# @ + 200 - 6/25/40 in Anderson-Prichard Carlson No. 2) clearly indicates that the production of gas from The Texas Company Lanehart No. 1 is lagging far behind comparative volumetric withdrawals of oil and gas from neighboring producing oil wells. In addition, wells producing oil from the upper horizon, also produce large volumes of casinghead gas, considerably in excess of the volumes calculated.

EXHIBIT III - (a) NE-SW Cross Section thru portion of Langlie Field in Vicinity of TTCo. W.T.Lanehart No. 1

(b) NW-SE Cross Section thru portion of Langlie Field in Vicinity of TTCo. W.T.Lanehart No. 1

(c) Structure map of portion of Langlie Field, contoured on top of Yates Sand horizon showing lease ownerships, location of all wells and lines along which above cross sections drawn.

The stratigraphic level of the upper horizon from which the subject well is producing may be readily compared with the same and lower horizons from which neighboring wells are producing by the use of these exhibits. On the cross sections, wells producing only from horizons below, some apparently open to both upper and lower horizons and some in which only upper horizon is open have been included to show the relative levels and extent of separating beds.

SUMMARY:

The subject well contributes a very substantial portion of the daily deliveries of gas towards the fulfillment of contractual obligations provided in agreement with the connected gathering line, El Paso Natural Gas Company. Restriction of production from this well would jeopardize status of this agreement, result in confiscation of property and a loss to the revenue of the State of New Mexico.

The foregoing discussion together with the factual data attached are offered to substantiate our request for exemption of the subject well from restrictions which may be imposed by Order No. 250 or supersedeas gas/oil ratio order. Further supplementary data will be promptly furnished upon request.

AEW-DAT 8-27-40

DETAILED WELL HISTORY THE TEXAS COMPANY
GAS WELLS IN LANGLIE POOL
LEA COUNTY, NEW MEXICO

	W. T. Lanehart No. 1
Location	Center NE¼ Sec. 29, T-25-S, R-37-E
Date Completed	June 9, 1936 May 14, 1939 (P.B. & Perf.)
Elevation	3031'
Casing Record	249' - 15½" 1045' - 9-5/8" 2460' - 7" 3156' - 5"
Total Depth	3308' P. B. 3099'
Tubing	None
Initial Production	132 MCF 151 Bbls. Oil 15 hrs Est. 240 Bbls/day On 5-15-39 51,000 MCF no oil 20 Min Test Perf. w/108 holes 2515'-2730'
Oil or Gas Zones	2545-2570 G 2725-2756 G 3240-3280 O
Cumulative Production) Gas to 7-1-40) Oil	2,366,957 MCF 39,178 Bbls. Oil
Weighted G/O Ratio	60,400 Cu. Ft./Bbl.
Average Daily Production (June 1940)) Gas) Oil	5,656 MCF Gas 0
June 1940 G/O Ratio	-

AEW-DAT - 8-27-40

EXHIBIT I.

CUMULATIVE PRODUCTION DATA - WELLS PRODUCING FROM UPPER HORIZON IN NEIGHBORHOOD OF TTCo. W. T. LANEHART NO. 1
LANGLIE POOL - LEA COUNTY, NEW MEXICO - FROM BEGINNING THRU JUNE 30, 1940

COMPANY	FARM	WELL NO.	LOCATION S - T - R	COMP. DATE	CUMULATIVE PRODUCTION TO 7-1-40 OIL-BBLS	CUMULATIVE PRODUCTION TO 7-1-40 GAS-MCF	RESERVOIR SPACE VOIDED OIL-BBLS	RESERVOIR SPACE VOIDED GAS-EQUIV. SPACE VOIDED IN BBLS.	TOTAL SPACE VOIDED	% TOTAL SPACE VOIDED OIL	% TOTAL SPACE VOIDED GAS
Anderson-Prichard	Carlson	2	21-25-37	2-28-37 DD4-1-38	35,590		46,270		46,270	100.00	
	Gregory	1	33-25-37	10-26-37	4,346		5,650		5,650	100.00	
	John T.Lanehart	1	21-25-37	9-30-37	52,247		67,920		67,920	100.00	
Continental	Sholes "A"	1	19-25-37	1-12-29		7,213,697		13,345,000	13,345,000		100.00
Gulf	Arnott-Ramsey "E"	2	16-25-37	3-8-40		488		900	900		100.00
Leonard Oil Co.	Chas. T. Bates	1	20-25-37	9-11-36 DD5-10-40		370,681		685,800	685,800		100.00
	Johns	1	20-25-37	2-8-40	5,187		6,740		6,740	100.00	
	Justis	1	20-25-37	3-3-36 DD5-5-36 PB10-18-38	13,573		17,640		17,640	100.00	
	"	2	20-25-37	7-30-37	53,002		68,900		68,900	100.00	
	B.C.Lanehart	1	21-25-37	4-28-36 DD&PB3-10-37	68,910		89,580		89,580	100.00	
	"	2	21-25-37	7-18-36	89,308		116,100		116,100	100.00	
	"	3	21-25-37	5-11-37	63,088		82,000		82,000	100.00	
	"	4	21-25-37	12-18-37 DD 9-10-39	45,141		58,680		58,680	100.00	
Leonard & Levers	B.M.Justis	1	19-25-37	6-25-31		2,894,119		5,354,000	5,354,000		100.00
Republic	Crosby	1	29-25-37	6-7-29 DD 6-26-29		767,807		1,420,000	1,420,000		100.00
Sun	W.T.Lanehart	1	20-25-37	9-10-36	14,586?		18,960		18,960	100.00	
The Texas Co.	W.T.Lanehart	1	29-25-37	6-9-36 PB 5-14-39		2,366,957		4,379,000	4,379,000		100.00
Tidewater	Coates "B"	1	21-25-37	2-27-37	31,982		41,580		41,580	100.00	
Western States	W.H.Harrison	1	7-25-37	3-7-37		424,274		784,900	784,900		100.00
*From gas wells other than TTCo. prior to 1-1-33						4,448,470		8,230,000	8,230,000		
By using an assumed gas-oil ratio of 5000 cu. ft./bbl for wells producing oil only, the cumulative gas production is 5000 x 476,960 bbls, which is equal to						2,385,000		4,412,000	4,412,000		
TOTAL		19			476,960	20,871,493	620,020	38,611,600	39,231,620	1.58	98.42

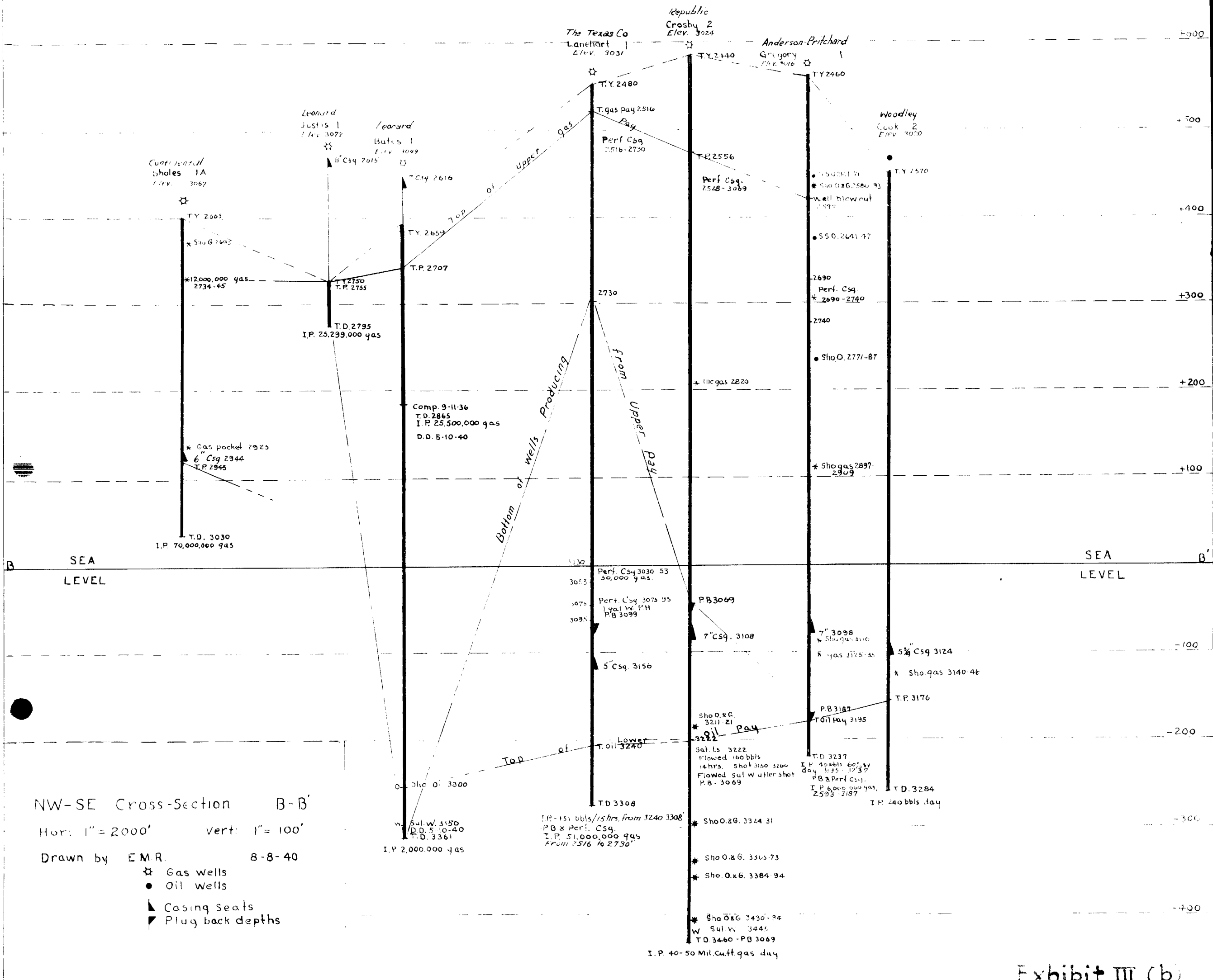
*Note: From beginning of operations El Paso Natural Gas Company purchased a total of 7,943,697 MCF of gas from companies other than The Texas Company to January 1, 1933. This covers the years 1929, 1930, 1931, and 1932. Beginning with 1933 figures show total deliveries by companies, by wells, as shown in above tabulation.

Distribution based on 4 months (1-1-33 to 5-1-33) volume of wells in the 3 areas prior to 1-1-33

(Eaves	207,960 MCF	= 21% x	7,943,697	= 1,668,177)
(Langlie	546,887 MCF	= 56% x	7,943,697	= 4,448,470)
(Jal	228,078 MCF	= 23% x	7,943,697	= 1,827,050)
	982,925	100%		7,943,697 MCF

AEW-DAT - 8-26-40 EXHIBIT II

LARGE FORMAT EXHIBIT HAS BEEN REMOVED AND IS LOCATED IN THE NEXT FILE



NW-SE Cross-Section B-B'

Hor: 1" = 2000' Vert: 1" = 100'

Drawn by E.M.R. 8-8-40

☼ Gas wells
● Oil wells

◣ Casing Seats
◤ Plug back depths

Exhibit III (b)

APPLICATION FOR EXCEPTION TO NEW MEXICO CONSERVATION COMMISSION ORDER NO. 250 & FINAL ORDER IN THIS CAUSE PROPOSED FOR ADOPTION ON AUGUST 29, 1940, COVERING

THE TEXAS COMPANY

C. W. Shepherd No. (a) 1 - Jal Field
C. W. Shepherd No. (b) 1 - Jal Field
C. W. Shepherd No. (b) 2 - Jal Field
C. W. Shepherd No. (b) 3 - Jal Field
C. W. Shepherd No. (b) 4 - Jal Field

Lea County, New Mexico

SUBJECT: APPLICATION FOR EXCEPTION TO NEW MEXICO CONSERVATION COMMISSION ORDER NO. 250 & FINAL ORDER IN THIS CAUSE PROPOSED FOR ADOPTION ON AUGUST 29, 1940, COVERING

THE TEXAS COMPANY
C.W.Shepherd (a) 1
C.W.Shepherd (b) 1
C.W.Shepherd (b) 2
C.W.Shepherd (b) 3
C.W.Shepherd (b) 4
Jal Field, Lea County,
New Mexico

EXHIBIT I - DETAILED WELL HISTORY

The detailed well history of the subject wells reflects the numerous and expensive work-over operations required during their producing life to obtain the recovery to date and assure the maximum ultimate recovery still remaining. The substantial quantities of oil produced by three of these wells during the earlier part of their life was produced from a horizon approximately 500' below the gas horizon to which they were plugged back and are producing from at the present (see Exhibit III (a)). Except for one well (C.W. Shepherd (b) 1) none of these wells produce any oil at present. All of the wells are connected to the El Paso Natural Gas Company high pressure (500-600#) gas gathering line, the gas sold being used for domestic and industrial purposes.

EXHIBIT II - CUMULATIVE PRODUCTION - ALL WELLS IN JAL FIELD - FROM BEGINNING THRU 6/30/40

Although the subject wells are somewhat isolated from the other wells located in the Jal Field proper, the cumulative production of the Jal Field reflects the substantial volumes of gas which have been produced from this entire area. The subject wells are all located in Sections 5 & 6, which, by reference to Exhibit III (c) accompanying our Rhodes Field application (under separate cover) may be seen actually to lie in a continuation of the Rhodes Field gas structure.

EXHIBIT III (a) NW-SE Cross Section thru Rhodes & Portion of Eaves & Jal Fields

(c) Structure map of Rhodes & portion of Eaves and Jal Fields, contoured on top of Yates sand horizon, showing lease ownerships, location of all wells and lines along which above cross sections drawn.

Because of the comparative isolation of the subject wells from other wells in the Jal Field and their proximity to wells in

the Rhodes Field, the sections in which they are located were included on the structure map and wells shown on the cross section accompanying the application for the Rhodes Field (attached under separate cover). We respectfully refer you to these exhibits and the discussion accompanying same in support of request for exemption of the subject wells.

SUMMARY:

Each of the wells covered by this application also contribute to the daily delivery of gas for fulfillment of contractual obligations provided in an agreement with the connected gathering line. Confiscation of property, as well as loss of revenue to the State of New Mexico, will result should restriction of production be imposed on any of these wells by the existing or proposed gas/oil ratio order.

AEW-DAT - 8-26-40

LARGE FORMAT EXHIBIT HAS BEEN REMOVED AND IS LOCATED IN THE NEXT FILE

LARGE FORMAT EXHIBIT HAS BEEN REMOVED AND IS LOCATED IN THE NEXT FILE

APPLICATION FOR EXCEPTION TO NEW MEXICO CONSERVATION COMMISSION ORDER NO. 250 & FINAL ORDER IN THIS CAUSE PROPOSED FOR ADOPTION ON AUGUST 29, 1940, COVERING

THE TEXAS COMPANY

M. L. Parker No. 1 - Eaves Field

Lea County, New Mexico

SUBJECT: APPLICATION FOR EXCEPTION TO NEW MEXICO CONSERVATION COMMISSION ORDER NO. 250 & FINAL ORDER IN THIS CAUSE PROPOSED FOR ADOPTION ON AUGUST 29, 1940, COVERING
THE TEXAS COMPANY
M. L. Parker No. 1,
Eaves Field, Lea County,
New Mexico

EXHIBIT I - DETAILED WELL HISTORY

The detailed history of this well reflects the short life (28 months) during which it produced an average of 30 barrels per day with large initial volume of water, before plugging back to the gas horizon, some 215' higher, from which it is producing at present. Since this plug back, it has produced gas only.

EXHIBIT II - CUMULATIVE PRODUCTION - ALL WELLS IN EAVES FIELD - FROM BEGINNING THRU 6/30/40

Located on the extreme Southeastern flank of the Eaves Field, the subject well nevertheless has the producing characteristics of the majority of wells in the Eaves Field as is indicated by individual well cumulative production shown by this exhibit. Large volumes of gas have been and are still being produced from this field. By referring to this tabulation and location of other producing wells near the subject well, it may be seen that these are also producing primarily gas.

EXHIBIT III (b) NE-SW Cross Section thru Rhodes & portions of Eaves & Jal Fields

(c) Structure map of Rhodes & portions of Eaves & Jal Fields, contoured on top of Yates Sand horizon, show lease ownerships, location of all wells and lines along which cross sections drawn.

Although the subject well is located in the Eaves Field as designated, it is producing from approximately the same stratigraphic level as nearby wells in the Rhodes Field. For this reason and for purpose of showing continuity, the subject well has been shown on structure map and included in cross section (Exhibits III (b) & III (c) respectively) accompanying our Rhodes Field request, attached hereto under separate cover. We respectfully refer you to these exhibits and geologic discussion accompanying same for supplementary data for the subject well. Please note particularly proximity of stratigraphic level of top of gas pay in M. L. Parker No. 1 with that in The Texas

Company's - Moberly (b) 1 and Cagle (b) 2, producing gas wells in the Rhodes Field.

SUMMARY:

The foregoing data reveal that, after producing the economically recoverable oil from the lower oil horizon in which the subject well was originally completed, it was plugged back and is now producing gas penetrated at approximately 2950'. It is contributing to the daily deliveries of gas to the El Paso Natural Gas Company's high pressure (500-600#) line, whence it is used for domestic and industrial purposes. It is possible that with continued operation, the sale of gas may yield a fair return on the investment in this well which the earlier limited oil production from same obviously failed to do. Restriction of the present production will result in confiscation of property and loss of revenue to the State of New Mexico.

AEW-DAT - 8-27-40

DETAILED WELL HISTORY THE TEXAS COMPANY
GAS WELLS IN EAVES POOL
LEA COUNTY, NEW MEXICO

	M. L. Parker No. 1
Location	NW¼ of NW¼ Sec. 29 T-26-S, R-37-E, U. S. Government Permit
Date Completed	April 17, 1935 September 3, 1937 (P.B.)
Elevation	2952'
Casing Record	160' - 12½" 1645' - 9-5/8" 3012' - 7"
Total Depth	3248' P. B. 3043' (9-3-37)
Tubing	2" at 3028' 6' of perf. bottom of which is 5' from bottom of tubing.
Initial Production	700 MCF 350 Bbls fluid 60% water 24 hours 9-3-37 Casing perf. 2950'-3008' 6,000 MCF* Gas
Oil or Gas Zones	2970-2974' G 3029-3031' O&G
Cumulative Production to 7-1-40) Gas) Oil	1,869,225 MCF 25,797 Bbls. Oil
Weighted G/O Ratio	72,460 cu. ft./bbl
Average Daily Production (June 1940)) Gas) Oil	2,100 MCF Gas 0
June 1940 G/O Ratio	-

* Ultimately increased to peak of 9,900 MCF

AEW-DAT - 8-27-40

EXHIBIT I.

CUMULATIVE PRODUCTION DATA - ALL WELLS IN EAVES POOL - LEA COUNTY, NEW MEXICO
FROM BEGINNING THRU JUNE 30, 1940

COMPANY	FARM	WELL NO.	LOCATION S - T - R	COMP. DATE	CUMULATIVE PRODUCTION TO 7-1-40 OIL-BBLS	CUMULATIVE PRODUCTION TO 7-1-40 GAS-MCF	RESERVOIR SPACE VOIDED OIL-BBLS	RESERVOIR SPACE VOIDED GAS-EQUIV. SPACE VOIDED IN BBLS.	TOTAL SPACE VOIDED	% TOTAL SPACE VOIDED OIL	% TOTAL SPACE VOIDED GAS
Continental	J.S.Eaves "A"	1	19-26-37	TTCo.WELLS	19,046	6,866,345	24,760	12,703,000	12,727,760	.20	99.80
	"	2	"		93,534		121,594		121,594	100.00	
	"	3	"		71,722		93,239		93,239	100.00	
	"	1	30-26-37		82,909		107,782		107,782	100.00	
	"	2	"		60,435		78,566		78,566	100.00	
	" "B"	1	"		72,162		93,811		93,811	100.00	
	W.McCallister "A"	1	24-26-37		37,212		48,376		48,376	100.00	
	"	2	"		222,446		289,180		289,180	100.00	
	"	3	"		89,494		116,342		116,342	100.00	
	"	4	"		37,636		48,927		48,927	100.00	
Gulf	V.Ramsey "A"	1	12-26-36		129,490		168,337		168,337	100.00	
Stanolind	C.M.Farnsworth"A"	1	13-26-36		158,087	3,510,566	205,513	6,495,000	6,700,513	3.07	96.93
	"	2	"		236,648		307,642		307,642	100.00	
	"	3	18-26-37		115,170		149,721		149,721	100.00	
	"	4	"		101,871		132,432		132,432	100.00	
	"	5	"		51,991	235,976	67,588	437,000	504,588	13.39	86.61
	" "B"	1	7-26-37		45,352	2,342,514	58,958	4,334,000	4,392,958	1.34	98.66
	"	2	"		18,410	2,059,598	23,933	3,810,000	3,833,933	.62	99.38
	"	3	"		23,240	948,293	30,212	1,754,000	1,784,212	1.69	98.31
TTCo.	H.G.Moberly (a)	1	8-26-37	5-15-34	84,474	225,866	109,816	418,000	527,816	20.81	79.19
	" (c)	1	17-26-37	5-16-29 W02-18-38	5,573		7,245		7,245	100.00	
	M.L.Parker	1	29-26-37	4-17-35	25,797	1,869,225	33,536	3,458,000	3,491,536	.96	99.04
*From gas wells other than TTCo. prior to 1-1-33						1,668,177		3,086,000	3,086,000		
By using an assumed gas-oil ratio of 2000 cu.ft./bbl for wells producing oil only, the cumulative gas production is 2000 x 1,408,293 which is equal to						2,816,586		5,211,000	5,211,000		
TOTAL		22			1,782,699	22,543,146	2,317,510	41,706,000	44,023,510	5.26	94.74

*Note: From beginning of operations El Paso Natural Gas Company purchased a total of 7,943,697 MCF of gas from companies other than The Texas Company to January 1, 1933. This covers the years 1929, 1930, 1931, and 1932. Beginning with 1933 figures show total deliveries by companies, by wells, as shown in above tabulation.

Distribution based on 4 months (1-1-33 to 5-1-33) volume of wells in the 3 areas prior to 1-1-33

(Eaves	207,960 MCF	= 21% x	7,943,697	= 1,668,177)
(Langlie	546,887 MCF	= 56% x	7,943,697	= 4,448,470)
(Jal	228,078 MCF	= 23% x	7,943,697	= 1,827,050)
	982,925	100%		7,943,697 MCF

AEW-DAT - 8-26-40

EXHIBIT II

APPLICATION FOR EXCEPTION TO NEW MEXICO CONSERVATION COMMISSION ORDER NO. 250 & FINAL ORDER IN THIS CAUSE PROPOSED FOR ADOPTION ON AUGUST 29, 1940, COVERING

THE TEXAS COMPANY

C. C. Cagle No. (a) 1 - Rhodes Field
C. C. Cagle No. (a) 2 - Rhodes Field
C. C. Cagle No. (b) 1 - Rhodes Field
C. C. Cagle No. (b) 2 - Rhodes Field
H. G. Moberly No.(b)1 - Rhodes Field
W. H. Rhodes No.(a) 1 - Rhodes Field
W. H. Rhodes No.(a) 2 - Rhodes Field
State of N.M."Y" No.1 - Rhodes Field

Lea County, New Mexico

SUBJECT: APPLICATION FOR EXCEPTION TO NEW MEXICO CONSERVATION COMMISSION ORDER NO. 250 & FINAL ORDER IN THIS CAUSE PROPOSED FOR ADOPTION ON AUGUST 29, 1940, COVERING

THE TEXAS COMPANY
W. H. Rhodes No. (a) 1
W. H. Rhodes No. (a) 2
C. C. Cagle No. (a) 1
C. C. Cagle No. (a) 2
C. C. Cagle No. (b) 1
C. C. Cagle No. (b) 2
H. G. Moberly No. (b) 1
State of N. M. "Y" No. 1
Rhodes Field - Lea County, New Mexico.

EXHIBIT I - DETAILED WELL HISTORY

Exhibit I sets out completion data, corrective and repair work and present producing status. From the cumulative production figures to 7/1/40, it may be seen that all of the subject wells have produced, since their completion, practically gas only. With the exception of Rhodes (a) 1 and (a) 2, none of them have ever appeared on orders setting allowables for oil wells. All are now, and have been since completion, connected to the high pressure (500-600#) gas gathering line of the El Paso Natural Gas Company. All of the gas produced is sold to the latter company and used for domestic and industrial purposes.

For general history of subject wells and detailed discussion of Rhodes (a) 1 and (a) 2, we respectfully direct your attention to The Texas Company's "Application for Exemption to Conservation Commission Order No. 238" dated March 16, 1940, We also request that the latter application, to which this application is a supplement, be attached hereto and made a part hereof.

EXHIBIT II - CUMULATIVE PRODUCTION - ALL WELLS IN RHODES FIELD FROM BEGINNING THROUGH 6/30/40

The tabulation of cumulative production of all wells in the Rhodes Field shows at a glance that all of these wells have been produced to market the primary constituents of this reservoir - gas. With few exceptions, all of the wells in the Rhodes Field have always been classified as gas wells and restriction imposed by any gas-oil ratio rule would render it uneconomical to produce them.

EXHIBIT III - (a) NW-SE CROSS SECTION THRU RHODES & PORTION OF EAVES & JAL FIELDS.
(b) NE-SW CROSS SECTION THRU RHODES & PORTION OF EAVES & JAL FIELDS.
(c) STRUCTURE MAP OF RHODES & PORTION OF EAVES & JAL FIELDS, CONTOURED ON TOP OF YATES SAND HORIZON, SHOWING LEASE OWNERSHIPS, LOCATION OF ALL WELLS AND LINES ALONG WHICH ABOVE CROSS SECTIONS DRAWN.
(d) GEOLOGY OF THE RHODES FIELD.

The extensive area over which the wells shown on the cross sections comprising these exhibits are spread, the substantial gas bearing horizons encountered in and the volumes produced to date from each of them clearly marks this entire area as a reservoir whose primary constituents are gas. A detailed study of the logs of these wells (which are on file with the Commission) will reveal the stratified, lenticular character of the porous horizons encountered which renders it extremely difficult, if not impossible, to isolate and define the numerous horizons contributing to the production from the wells in this field. Pay zones are numerous and appear to be separated by practically impermeable layers of dolomite.

A copy of a discussion of the Rhodes Field which was a part of previous request for exemption for two of the subject wells is attached hereto for convenient reference. In this brief discussion, the extensive gas accumulation of the Rhodes Field is attributed to the lithology of formations comprising the reservoir.

SUMMARY -

It has been our purpose to present briefly, yet in a comprehensive manner, the pertinent data to support our request for exemption of the subject wells. Any further data desired will be furnished at the Commission's request. Each of these wells contribute to the daily delivery of gas for the fulfillment of contractual obligations provided in an agreement with the connected gathering line. Any restrictions imposed upon the production and sale of gas from the subject wells would result in confiscation as well as a loss of revenue to the State of New Mexico.

AEW-JRH

LARGE FORMAT EXHIBIT HAS BEEN REMOVED AND IS LOCATED IN THE NEXT FILE

CUMULATIVE PRODUCTION DATA - ALL WELLS IN RHODES POOL - LEA COUNTY, NEW MEXICO
FROM BEGINNING THRU JUNE 30, 1940

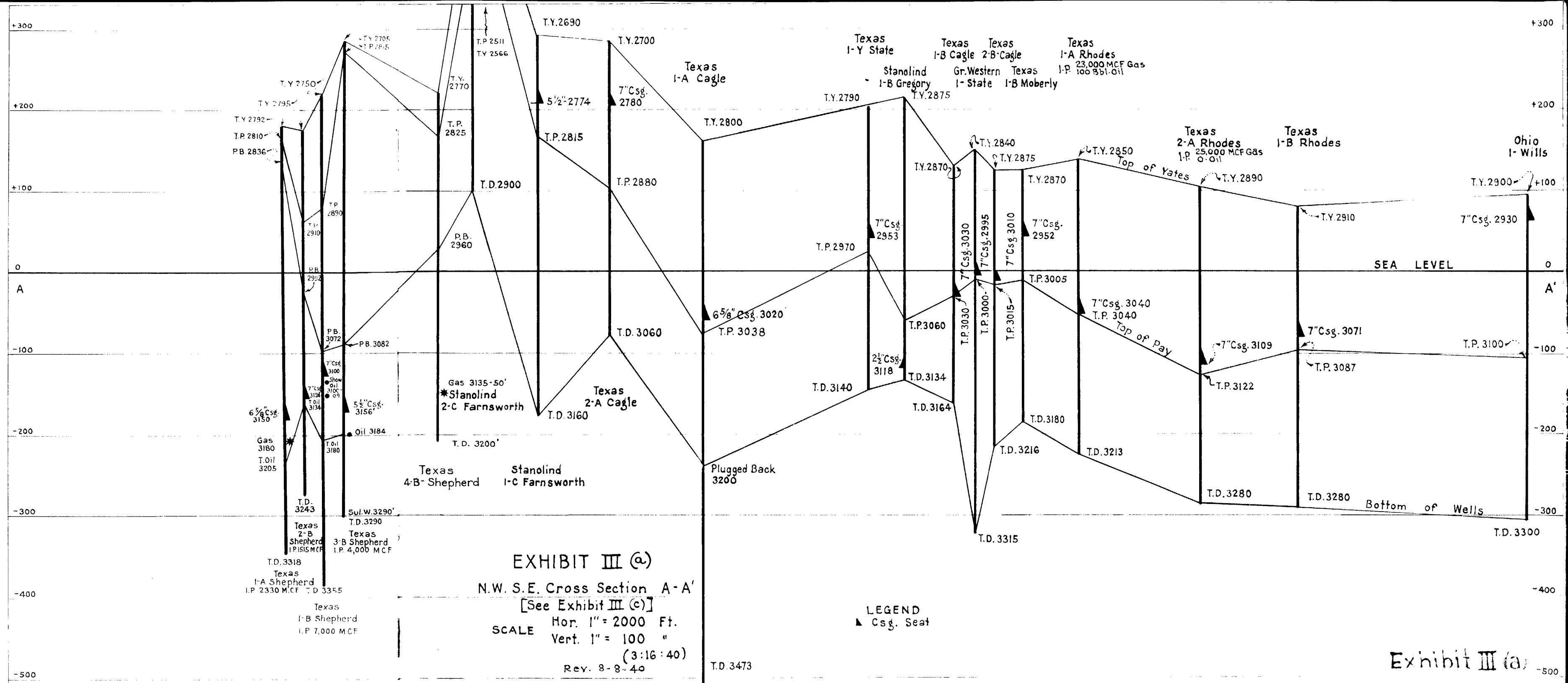
COMPANY	FARM	WELL NO.	LOCATION S - T -R	COMP. DATE	CUMULATIVE PRODUCTION TO 7-1-40 OIL-BBLS	CUMULATIVE PRODUCTION TO 7-1-40 GAS-MCF	RESERVOIR SPACE VOIDED OIL-BBLS	RESERVOIR SPACE VOIDED GAS-EQUIV. SPACE VOIDED IN BBLS.	TOTAL SPACE VOIDED	% TOTAL SPACE VOIDED OIL	% TOTAL SPACE VOIDED GAS
Great Western	State of N.M.	1	16-26-37	11-20-37	2,793	2,397,099	3,630	4,435,000	4,438,630	.08	99.92
Ohio Oil Co.	M. E. Wills	1	35-26-37	11-8-38	7,792	38,340*	10,130	70,930	81,060	12.50	87.50
Stanolind	Farnsworth	1-C	4-26-37	10-13-39		423,164		782,900	782,900	0	100.00
"	"	2-C	4-26-37	12-19-39		395,320		731,300	731,300	0	100.00
"	L. L. Gregory	1-B	15-26-37	6-12-39		483,815		895,100	895,100	0	100.00
The Texas Co.	C.C.Cagle (a)	1	9-26-37	1-8-29	-	18,545,440	-	34,310,000	34,310,000	0	100.00
"	" (a)	2	9-26-37	7-14-38	-	4,238,597	-	7,841,000	7,841,000	0	100.00
"	" (b)	1	15-26-37	1-2-36	-	8,570,007	-	15,860,000	15,860,000	0	100.00
"	" (b)	2	15-26-37	1-19-38	143	1,131,753	186	2,094,000	2,094,186	.01	99.99
"	H.G.Moberly (b)	1	21-26-37	2-26-38	163	1,183,695	212	2,190,000	2,190,212	.01	99.99
"	W.H.Rhodes (a)	1	22-26-37	11-10-27	138,686	12,363,277	180,300	22,870,000	23,050,300	.78	99.22
"	" (a)	2	22-26-37	6-21-37	38,507	2,015,809	50,000	3,729,000	3,779,000	1.32	98.68
"	" (b)	1	27-26-37	2-13-40	5,796	6,433*	7,530	11,900	19,430	38.75	61.25
"	State of N.M."Y"	1	16-26-37	2-5-40	-	272,279	-	503,700	503,700	0	100.00
TOTALS		14			193,880	52,065,026	251,988	96,324,830	96,576,818	.26	99.74

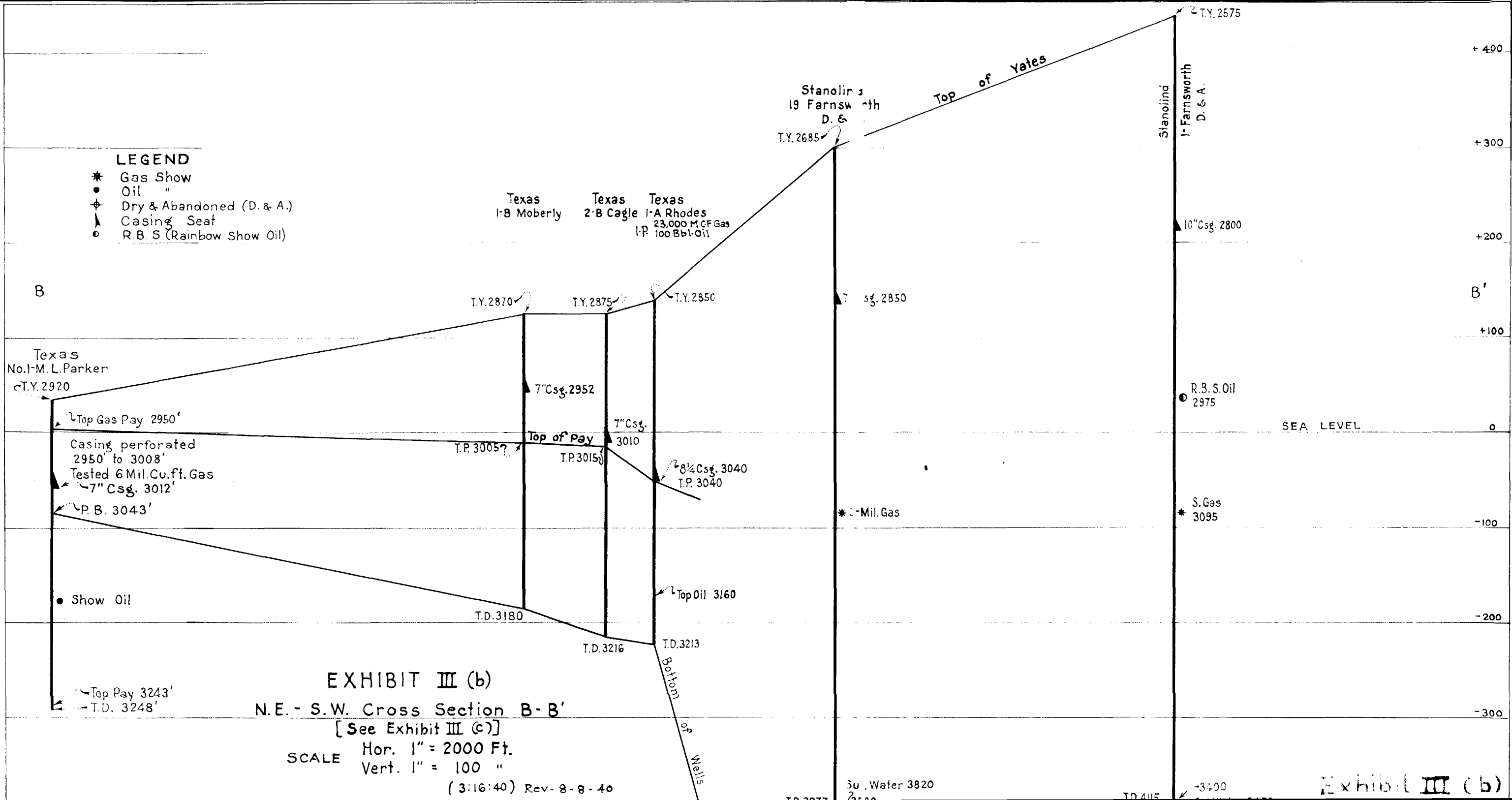
*Gas-Oil ratio shown on July, 1940, Lea County Operators Committee Engineering Report used in computing these volumes.

Note: Geo. F. Getty-Riggs A-1 completed 4/10/38, Sec. 1, Twp. 26-S, R-37-E, and Ohio-State #1 completed 7/9/39, Sec. 2, Twp. 26-S, R-37-E, are small oil wells in Northeast corner of Rhodes Field but are not producing from same reservoir as rest of wells in Rhodes Field and are, for this reason, not included in above tabulation.

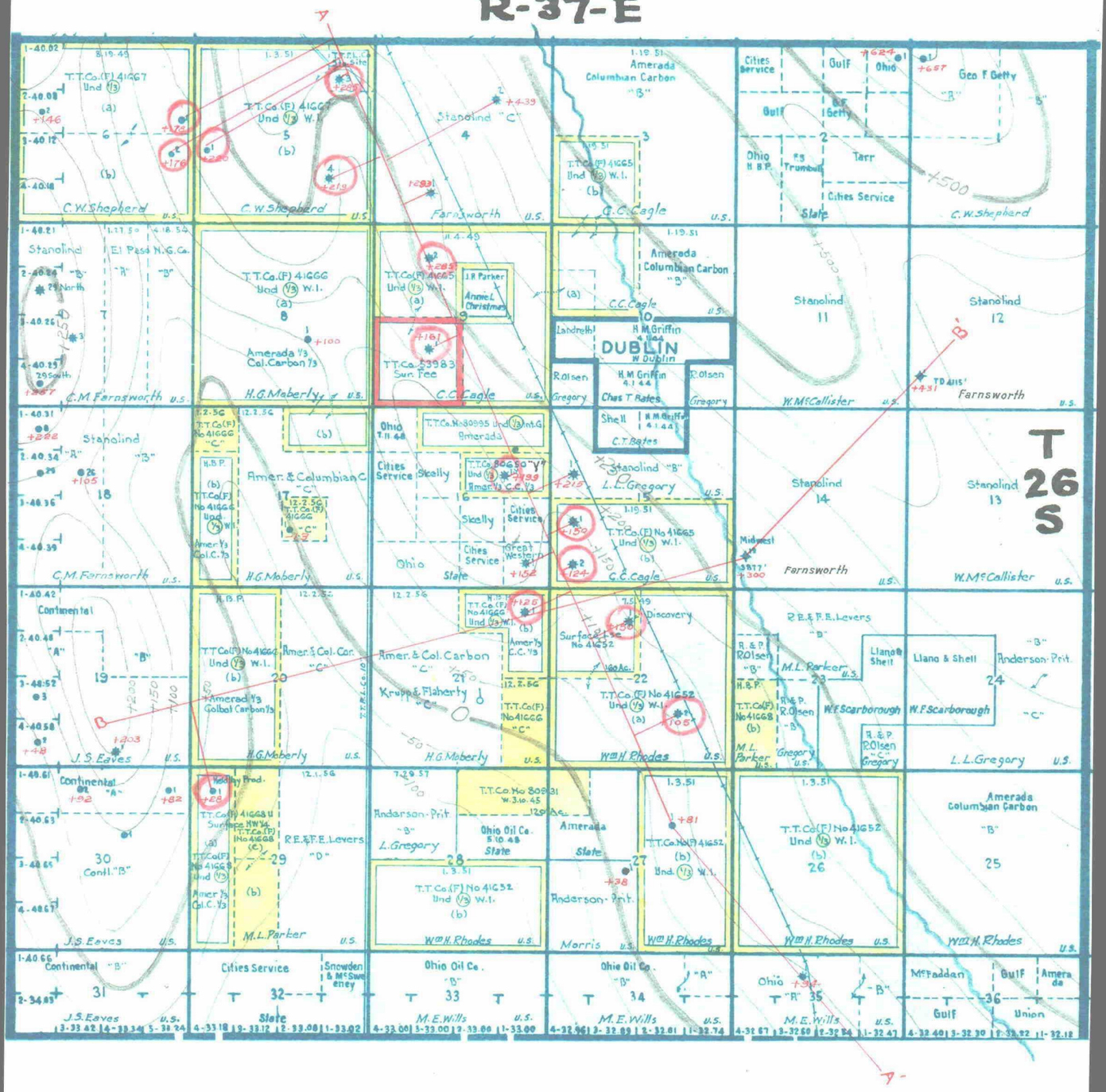
AEW-JRH - 8-26-40

EXHIBIT II


+300
+200
+100
0
-100
-200
-300
-400
-500
A
A'
SEA LEVEL
T.Y.2690
T.Y.2700
T.Y.2750
T.Y.2795
T.Y.2792
T.P.2810
P.B.2836
T.Y.2705
T.P.2815
T.P.2511
T.Y.2566
T.Y.2770
T.P.2825
5½"-2774
7"Csg. 2780
T.P.2815
T.P.2880
T.D.2900
T.P.2890
T.Y.2910
P.B.2960
P.B.2902
P.B.3072
P.B.3082
7"Csg 3100
Show Oil 3106-09
7"Csg 3126
T.Oil 3134
5½"Csg. 3156'
6⅝"Csg 3150
Gas 3180
T.Oil 3205
Oil 3184
T.Oil 3180
T.D. 3243
T.D.3318
Texas 1-A Shepherd I.P 2330 M.C.F T.D 3355
Texas 2-B Shepherd I.P.1515 M.C.F
Sul.W.3290'
T.D.3290
Texas 3-B Shepherd I.P. 4,000 M.C.F
Texas 1-B Shepherd I.P. 7,000 M.C.F
Gas 3135-50'
*Stanolind 2-C Farnsworth
T.D. 3200'
T.D. 3160
Texas 2-A Cagle
Texas 4-B-Shepherd
Stanolind 1-C Farnsworth
Texas 1-A Cagle
T.Y.2800
T.D.3060
6⅝" Csg. 3020
T.P. 3038
Plugged Back 3200
T.D. 3473
Texas 1-Y State
Stanolind 1-B Gregory
T.Y.2790
T.Y.2875
Texas 1-B Cagle
Gr.Western 1-State
Texas 2-B-Cagle
Texas 1-B Moberly
Texas 1-A Rhodes
I.P. 23,000 MCF Gas 100 Bbl. Oil
T.P.2970
7"Csg 2953
T.P.3060
2½"Csg. 3118
T.D.3134
T.D.3140
T.D.3164
T.Y.2840
T.Y.2875
T.Y.2870
7"Csg.3030
7"Csg.2995
7"Csg 3010
T.P.3030
T.P.3000
T.P.3015
T.D.3315
T.D.3216
T.D.3180
T.Y.2850
Top of Yates
T.Y.2870
7"Csg. 2952
T.P.3005
7"Csg. 3040
T.P. 3040
Top of pay
T.D.3213
Texas 2-A Rhodes
I.P. 25,000 MCF Gas 0 Oil
T.Y.2890
7"Csg.3109
T.P.3122
T.D.3280
Texas 1-B Rhodes
T.Y.2910
7"Csg.3071
T.P.3087
T.D.3280
Bottom of Wells
Ohio 1-Wills
T.Y.2900
7"Csg. 2930
T.P. 3100
T.D. 3300
LEGEND
▲ Csg. Seat
EXHIBIT III (a)
N.W. S.E. Cross Section A-A'
[See Exhibit III (c)]
SCALE Hor. 1" = 2000 Ft.
Vert. 1" = 100 "
(3:16:40)
Rev. 8-8-40
Exhibit III (a)


LEGEND
Gas Show
Oil "
Dry & Abandoned (D. & A.)
Casing Seat
R.B.S. (Rainbow Show Oil)
B
B'
Texas
No.1-M.L.Parker
T.Y. 2920
Top Gas Pay 2950'
Casing perforated
2950' to 3008'
Tested 6 Mil. Cu.ft. Gas
7" Csg. 3012'
P.B. 3043'
Show Oil
T.D. 3180
T.D. 3216
Top Pay 3243'
T.D. 3248'
T.Y. 2870
T.Y. 2875
T.Y. 2850
7" Csg. 2952
Texas
1-B Moberly
Texas
2-B Cagle
Texas
1-A Rhodes
I.P. 23,000 M.C.F. Gas
100 Bbl. Oil
7" Csg.
3010
T.P. 3005?
T.P. 3015
Top of Pay
8¼ Csg. 3040
T.P. 3040
Top Oil 3160
T.D. 3213
Bottom of Wells
Stanolind
19 Farnsworth
D. &
T.Y. 2685
Top of Yates
7" Csg. 2850
1-Mil. Gas
Su. Water 3820
T.D. 4115
Stanolind
1-Farnsworth
D. & A.
T.Y. 2575
10" Csg. 2800
R.B.S. Oil
2975
S. Gas
3095
-3400
SEA LEVEL
+400
+300
+200
+100
0
-100
-200
-300
EXHIBIT III (b)
N.E. - S.W. Cross Section B-B'
[See Exhibit III (c)]
SCALE Hor. 1" = 2000 Ft.
Vert. 1" = 100 "
(3:16:40) Rev-8-8-40
Exhibit III (b)

R-37-E



STRUCTURE MAP OF RHODES & PORTIONS OF EAVES & JAL FIELDS
LEA COUNTY, NEW MEXICO

Contoured on top of Yates Sand
(Contour interval = 50')
Scale: 1" = 4000'

EMR - 8/13/40

~~~~ Approx. Eastern limit of porosity in horizon from which present wells are producing

Leases owned by The Texas Company colored or bordered in yellow

○ The Texas Company wells for which exemption to gas-oil ratio order is requested

A——A' Line of NW-SE Cross Section (See Exhibit III (a))

B——B' Line of NE-SW Cross Section (See Exhibit III (b))

EXHIBIT III (c)
~~~~

GEOLOGY OF THE RHODES GAS FIELD
Township 26 South, Range 37 East
Lea County, New Mexico

The area known as the Rhodes Gas Field is located in southeastern Lea County, New Mexico. It lies mainly within the western portion of the east twenty-four sections of Twp. 26-S, Rge. 37-E, and does not extend beyond the limits of these sections. Gas has been the principal product produced from the field, although a few of the wells have produced small amounts of oil. Geographically the field is located near the western extremity of the Great Plains Country, which covers a large portion of Texas and some of the eastern portion of New Mexico.

The formations from which the gas is produced are of Permian (Capitan) age. The surface is represented by a thin mantle of Tertiary beds with Caliche at the top underlain by sands and clays. Underlying the Tertiary are "Red Beds" and sand of Triassic age. These are in turn underlain by Permian beds which are present at a depth of approximately 700 feet.

The producing area is located on the west flank of a regional structure located in Texas and New Mexico and known as the Central Basin Platform of the Permian Basin. While the gas production is closely adjacent to the axis of this large structural feature, the main structural feature itself is not the controlling factor in the distribution of the gas. The local structure in the area of the gas production is represented by a fairly uniform southwest flank dip averaging approximately 200 feet to the mile. The strike of the formation is approximately North 40° West.

While the regional structure previously mentioned is considered to be responsible for the gas accumulation, the present location of the gas reservoir is controlled to a large extent by the lithology of the formations comprising the reservoir. At the time of the deposition of the formations forming the reservoir a large barrier reef was known to exist not far west of the present producing area. The position of this reef and its continuation in a northwest-southeast direction were the influencing factors controlling the type of sediments found in the gas area and were the reason for the great variation in the lithology of the formations in an east-west direction and to a lesser extent in a north-south direction. While sandstones and limestones were being deposited on the eastern lagoonal flank of the reef out to certain depths, anhydrite and other sediments forming impervious beds were being deposited at a greater distance from the reef. The transition of the sediments in an eastward direction from coarse dolomites and sandstones to impervious anhydrites and impure dolomites is the controlling factor determining the northeastward extent of the present gas reservoir.

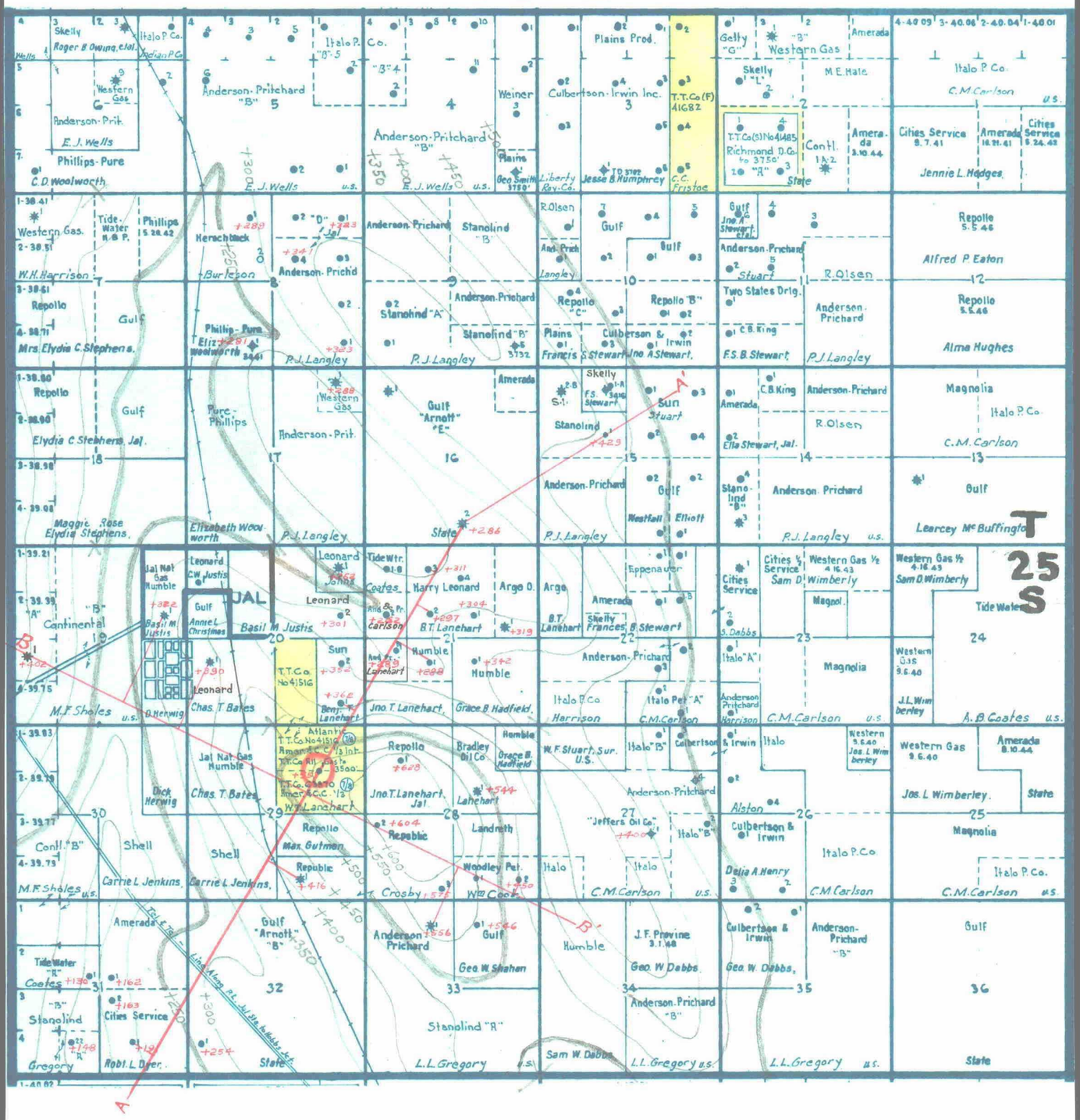
Studies made from the examination of well samples show erratic changes in the types of sediments over short distances and several hundred feet of sand is known to grade into impervious dolomite in a distance of one-quarter mile or less. The presence of alternating sands and dolomites, not to mention the occurrence of some anhydrite beds in the upper portion of the gas horizon and the gradation of these formations into each other, makes it diffi-

cult to carry stratigraphic correlations accurately. This is particularly true of the formations producing the gas, since the sediments necessary to the formation of the porous reservoir are those having the more erratic characteristics. Because of the transitional nature of the sediments in the area of the gas reservoir most correlation work in the area must be confined to the Top of the Yates horizon which overlies the main porous zones of the reservoir.

As borne out by production figures, most of the reservoir area contains gas, although lower on the flanks of the structural feature some small oil areas are known to exist. It is probable that some of the oil area represents a thin layer of oil lying within the main gas horizon at lower levels between the gas-oil contact and the oil-water contact. Other oil areas presumably are due to the presence of isolated lenses or pockets within the gas reservoir itself. In several instances small amounts of oil are found, with gas both above and below the oil horizon.

Production figures and thicknesses of reservoir horizons substantiate the fact that the Rhodes Gas Field is principally a gas field where the value of the gas is of much greater importance than the value of the small amounts of oil known to be present in scattered areas throughout the field.

R-37-E



STRUCTURE MAP OF PORTION OF LANGLIE FIELD

LEA COUNTY, NEW MEXICO

Contoured on top of Yates Sand
(Contour interval = 50')
Scale: 1" = 4000'

EMR - 8/13/40

Leases owned by The Texas Company colored or bordered in yellow

○ The Texas Company wells for which exemption to gas-oil ratio order is requested

A——A' Line of NE-SW Cross Section (See Exhibit III (a))

B——B' Line of SE-NW Cross Section (See Exhibit III (b))

EXHIBIT III (c)

OIL CONSERVATION COMMISSION

#21, 2 #3-

September 19, 1940

Mr. G. H. Card
Stanolind Oil & Gas Company
Fair Building
Fort Worth, Texas

Re: Case #21, for the purpose of considering the adoption of final gas-oil ratio orders for the various producing fields in New Mexico.

Re: Application of Stanolind Oil & Gas Company for exemption from proposed permanent gas-oil ratio order for Lea County for five wells located in the Eaves, Rhodes, and Langlie Fields - amendment to said application.

My dear George:

Reference is made to your letter of September 4, wherein you make amendment to your application referred to in the caption.

Your letter, as an application for such amendment, is being filed with your original application in order that the application and amendment may be considered together by the Commission after a permanent gas-oil ratio order is issued for Lea County and the question of exemptions from such order comes up for action by the Commission.

Very truly yours,

OIL CONSERVATION COMMISSION

By_____
Carl B. Livingston
Attorney

CBL:ik

Form 502 2-38

STANOLIND OIL AND GAS COMPANY

FAIR BUILDING

FORT WORTH, TEXAS

September 4, 1940

File: GHC-2809-254.007

Subject: Exemption from Gas-oil Ratio Order

RECEIVE
STATE LAND OFFICE
SEP 6 12 59 PM '40
SANTA FE, N. M.

Honorable New Mexico Conservation Commission,
Santa Fe, New Mexico.

Gentlemen:

Kindly refer to our letter of August 9, file GHC-2523-254.007, in which we requested exemption from the proposed permanent gas-oil ratio order for Lea County for five of our wells in the Eaves, Rhodes, and Langlie Fields. There are two errors in the detailed history of these wells which were attached to our letter.

In the history of Farmsworth C-2, the 2½" tubing is shown as set at 3869 feet. This should be "2869" feet.

In the history of Gregory "C" No. 1, the 2½" tubing is shown as set at 3237 feet. This should be "3162" feet.

Yours very truly,

STANOLIND OIL AND GAS COMPANY

J. H. Moyar

By G. H. Card

GHC/ab

Form 502 2-38

STANOLIND OIL AND GAS COMPANY

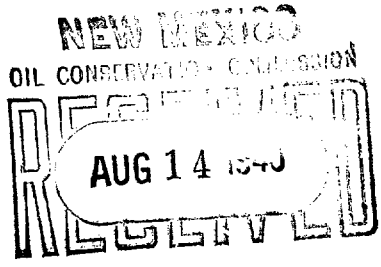
FAIR BUILDING

FORT WORTH, TEXAS

August 9, 1940

File: GHC-2523-254.007

Subject: Exemption from Gas-oil Ratio Order



Hon. New Mexico Conservation Commission,
Santa Fe, New Mexico.

Gentlemen:

As provided in the proposed permanent gas-oil ratio order for Lea County, New Mexico, we respectfully request exemption for the following of Stanolind Oil and Gas Company's wells:

Well	Area
Farnsworth B-3	Eaves
Farnsworth C-1	Rhodes
✓Farnsworth C-2	Rhodes
Gregory B-1	Rhodes
✓Gregory C-1	Langlie.

We are attaching a detailed history of each of the above wells, and in addition are attaching a plat showing their location. The wells for which exemption is requested are encircled in red.

An examination of the attached data will disclose that each is a gas well, and is delivering gas to the El Paso Natural Gas Company. You will also note that this group of wells is located in the Southern part of Lea County in a relatively small area.

Ever since production was first obtained in this area, gas has been the chief product produced, and it is generally considered to be primarily a gas area. All of this information can be substantiated by your records.

We are, therefore, of the opinion that the proposed per-

permanent gas-oil ratio order for Lea County is not applicable to these wells. For this reason complete exemption from the order is respectfully requested.

Yours very truly,

STANOLIND OIL AND GAS COMPANY

J. H. Moyar

cc CGS

Stanolind Oil and Gas Company

C. M. Farnsworth "B" No. 3

Eaves Field Elevation 2959'

Location: NE¼ of SW¼ of Sec. 7, T. 25S, R. 37E

Spudded June 1, 1938 Completed June 28, 1938

Casing: 13" set at 297' with 210 sacks of cement
9-5/8" set at 1167' with 400 sacks of cement
7" set at 2705' with 250 sacks of cement

Tubing: 2½" set at 2974'

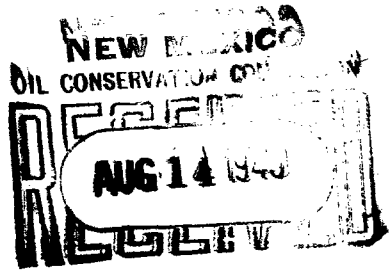
Present producing formation: Carlsbad Gas Sand

Top of Carlsbad: 2650'

Total Depth: 2995'

Potential: 10,591 MCF gas per day with no oil or water through open 2½" tubing.

Present Status: Delivering approximately 1,100 MCF gas per day to El Paso Natural Gas Company. Also produces about 2½ barrels of oil daily.



Stanolind Oil and Gas Company

Farnsworth "C" No. 1

Rhodes Field Elevation 2983'

Location: SE ¼ of SW ¼ of Sec. 4, T. 26S, R. 37 E.

Spudded September 3, 1939 Completed October 14, 1939

Casing: 13" set at 290' with 200 sacks of cement
8-5/8" set at 1077' with 325 sacks of cement
5½" set at 2774' with 100 sacks of cement

Tubing: 2½" set at 3038'

Present producing formation: Yates Gas Sand

Top of Yates: 2680'

Total Depth: 3160'

Initial Production: 3,400 MCF gas through open 2½" tubing

Casing perforated with 16 shots from 2695' to 2710' and 40 shots from 2710' to 2730'.

Potential: 4790 MCF gas per day with no oil or water through open 2½" tubing.

Present Status: Delivering approximately 2,000 MCF gas per day to El Paso Natural Gas Company.

Stanolind Oil and Gas Company

Farnsworth "C" No. 2

Rhodes Field Elevation 2999'

Location: SW $\frac{1}{4}$ of NE $\frac{1}{4}$ of Sec. 4, T. 26S, R. 37 E.

Spudded 11-14-39 Completed 12-19-39

Casing: 13" set at 294' with 225 sacks of cement
8-5/8" set at 1098' with 300 sacks of cement
5$\frac{1}{2}$" set at 2479' with 150 sacks of cement

Tubing: 2$\frac{1}{2}$" set at 3869'

Present producing formation: Yates Gas Sand

Top of Yates: 2560'

Total Depth: 2900'

Potential: 12,004 MCF gas per day with no oil or water.

Present Status: Delivering approximately 2,500 MCF gas per day to El Paso Natural Gas Company

Stanolind Oil and Gas Company

Gregory "B" No. 1

Rhodes Field Elevation 3000'

Location: SW¼ of NW ¼ of Sec. 15, T. 26S, R. 37 E.

Spudded May 10, 1940 Completed June 9, 1940

Casing: 13" set at 272' with 200 sacks of cement
9-5/8" set at 1103' with 350 sacks of cement
7" set at 2945' with 100 sacks of cement

Tubing: 2½" set at 3116'

Present producing formation: Yates Gas Sand

Top of Yates: 2605'

Total Depth: 3134'

Potential: 3,712 MCF gas per day with no oil or water through open 2½" tubing.

Present Status: Delivering approximately 1,200 MCF gas per day to El Paso Natural Gas Company

Stanolind Oil and Gas Company

Gregory "C" No. 1

Langlie Field Elevation 3016'

Location: NE¼ of NW¼ of Sec. 33, T. 25 S, R. 37 E.

Spudded August 8, 1937 Completed September 19, 1937

Casing: 13" set at 256' with 250 sacks of cement
9-5/8" set at 2353' with 500 sacks of cement
7" set at 3098' with 150 sacks of cement

Tubing: 2½" set at 3237'

Present producing formation: Yates Sand and Upper Shipley

Original Total Depth: 3237' Present Total Depth: 3190'

Original Potential: Flowed 266 Barrels of oil in 19 hours with 1,000 MCF gas.

History of Remedial Work: Water encroached rapidly. 246' of 5½" liner was set and cemented from 2977' to 3223'. Liner gun perforated 3195' to 3199'. Hole filled with water. Cleaned out to total depth, 3237', and tested below liner perforations with hookwall packer on tubing. Tested 15 to 25 barrels of fluid per day, 1% oil. Liner then perforated 3117' to 3180' to open up gas pay. Tested 20 barrels of water per day with 150 MCF gas. Set Baker cement retainer at 3190' and squeezed in 100 sacks of cement. Acidized gas pay 3125' to 3135' with 1500 gallons. Flowed 250 MCF gas per day. Perforated casing from 2450' to 2530', 2560' to 2650', 2680' to 2730', 2850' to 2950' and 3020' to 3080'. First increase in gas came at 2700'. Tested 5,000 MCF dry gas through open tubing and 3,300 MCF flowing against 600# back pressure.

Present Status: Delivering approximately 1,200 MCF gas per day to El Paso Natural Gas Company. Also, producing 10 barrels of fluid per day, 70% oil.

LARGE FORMAT EXHIBIT HAS BEEN REMOVED AND IS LOCATED IN THE NEXT FILE

Exhibit "A"

A F F I D A V I T

STATE OF NEW MEXICO)
(SS
COUNTY OF CHAVES)

Comes now J. B. Headley, who being first duly sworn, upon his oath states:

That he was employed by the Two States Oil Company in charge of designing and completing an oil well known as Two States Oil Company, Kasemen. et al, Stuart No. 1, located in the NW/4 SW/4 of Section 11, Township 25 South, Range 37 East, Langlie Field, Lea County, New Mexico;

That attached hereto and made a part hereof is his completion report of said well, and that said report is true and correct to his best knowledge and belief;

That he witnessed the completion work on this well together with the packer settings, including the first setting at 3320 feet, which failed, and the second packer setting at 3317 feet which was successful, due to the heavy mud on top of the packer, thereby cutting off 10,000,000 plus cubic feet of gas per day;

That in his opinion any attempt to change or alter the present packer setting is quite likely to endanger the oil pay and release the upper excessive gas, and another packer setting may not successfully shut off this gas, and that in his opinion it is practically impossible to separate the lower gas from the oil.

That he took gas measurements on the well subsequent to the completion as follows:

Date	Gas-Oil Ratio
2-16-38	1210/1
3-19-38	1286/1
5-20-38	1333/1

J. B. Headley
Affiant

Subscribed and sworn to before me this 9th day of August, 1940.

Amelia M. Startzman
Notary Public

My Commission Expires
January 17, 1944

R E P O R T

TWO STATES OIL COMPANY (50%)

&

GEORGE A. KASEMAN (50%)

Frances S. B. Stuart No. 1.

Location: 1650' from the south line and 330' from the west line of Section 11, Township 25 South, Range 37 East, Lea County, New Mexico, Langlie Field.

Contractor: Two States Drilling Company.

Elevation: Derrick floor (Rotary) 3121.

Spudding date: July 4, 1937.

Completed: August 4, 1937.

Pipe: 8-5/8" 224', 150 sacks cement.
5-1/2" 17# 3148', 450 sacks cement.
2" tubing upset, 3410 bottom joint perforated packer 3317 Guiberson Spiral.

Total Depth: 3410'.

Pays:

Gas: 3216-3232 - 3,380,000 dry sweet.
" 3246-3274 - estimated 10,000,000 sweet.
" 3274-3317 - possible increase.

Oil: 3332-3338
3342-3354
3390-3396

Production: Estimated 1,000 barrels per day, P. L. O. natural.

The following is the drilling time beginning under the 5½" pipe:

Depth:	Time:
3166	30
68	25
70	25
72	25
74	18
76	20
78	17
80	22
82	30
84	25
86	30
88	20
90	17
92	22
94	15
96	14
98	14
3200	15
02	15
04	15
06	18
08	20
10	22
12	20
14	35
16	35
18	15

Depth:	Time:
3220	10
22	15
24	10
26	10
28	15
30	10
32	15
34	30
36	27
38	23
40	38
42	22
44	35
46	25
48	20
50	20
52	20
54	20
56	10
58	8
60	12
62	10
64	10
66	20
68	10
70	15
72	15
74	15
76	30
78	30
80	34
82	69
84	60
86	80
88	60
90	28
92	40
94	45
96	55
98	40
3300	27
02	15
04	30
06	58
08	45
10	40
12	35
14	60
16	40
18	35
20	40
22	30
24	25
26	25
28	35
30	35
32	30
34	10
36	15
38	15
40	45
42	47
44	05
46	03
48	08
50	12
52	16
54	19
55	13
56	20
58	60
60	60
62	40
64	30

Depth:	Time:
3366	40
68	40
70	50
72	40
74	40
76	40
78	35
80	40
82	63
84	23
86	40
88	30
90	30
92	22
94	15
96	13
98	25
3400	30
02	28
04	38
06	30
08	25
10	24 Total Depth 6:30 P. M. August 1, 1937.

The following is the driller's log:

0-990	Redrock, sandstone, caliche
1130	Anhydrite
1140	Shale
1258	Shale and anhydrite
1288	Anhydrite
1360	Anhydrite and salt
1425	Anhydrite
1871	Anhydrite and salt
1890	Salt
2013	Anhydrite
2312	Anhydrite and salt
2393	Anhydrite
2404	Brown lime
2426	Anhydrite
2925	Brown lime
3040	Lime
3074	Broken lime - show of gas
3150	Lime
3266	Lime - show of gas
3277	Sandy lime
3336	Lime
3377	Broken lime
3410	Lime - T. D.

The following are formation tops picked by me from cuttings:

Top anhydrite:	1020
Top salt:	1288
Base salt:	2312
Top brown lime:	2350
Sandy section:	3180
Top of pay	3332

On July 23rd, 1937, 3148' 5½" O. D. pipe was set with 450 sacks cement. On July 27th pipes tested with 1,000# pressure and found to be okay. Plug drilled and drilling continued. On July 28th at total depth 3245 test was made through drill pipe testing 3,380,000 cu. ft. dry sweet gas. On July 30th at total depth of 3355 feet tested through 2" tubing, estimated 10,000,000 ft. of gas with spray of oil and through casing the same. On August 1st, the total depth (final) 3410 with packer (rubber) at 3320 perforations below test tem million cubic feet gas with spray of oil.

Mud in casing was unloaded and evidence was such that packer was not holding. On August 3rd, set Guiberson Spiral packer at 3317 perforations below and mud was left in the casing. On August 4th tubing was swabbed and production allowed to flow into pits testing 107½ barrels pipeline oil in seven hours, with estimated 100,000 cubic feet gas per day. On August 8th tested in tanks 224 barrels pipeline oil through 23/64 choke on tubing. On August 9th tested in tanks 189 barrels pipeline oil through 23/64 choke on tubing. On August 10th tested 125 barrels pipeline oil through 10/64 choke on tubing.

The gravities observed were:

43 degrees	at 92 degrees	temp.
43.8 "	at 81 "	"
43.7 "	at 71 "	"
42.7 "	at 60 "	"

Well put on proration schedule August 16th, 1937. Shell Pipeline Company is the purchaser of the production.

Respectfully submitted,

J. B. Headley

J. B. Headley, Geologist.

Exhibit "B"

A F F I D A V I T

STATE OF NEW MEXICO)
(SS
COUNTY OF LEA)

Comes now R. S. Gaston, who upon his oath states:

That he is Production Superintendent for Two States Oil Company; that said Company drilled to completion a well known as the Two States Oil Company, Kaseman, et al, Stuart No. 1, located in the NW/4 SW/4 Section 11, Township 25 South, Range 37 East, Langlie Field, Lea County, New Mexico; that said Company has always been and is now the operator of said well:

That he was present at the time of the completion of said well and witnessed the first packer setting, which was unsuccessful in shutting off the upper gas pay, and also the second packer setting which successfully shut off the gas pay due to the heavy mud being put on top of the packer; that said well was then completed with a satisfactory gas-oil ratio;

That since completion of said well the gas-oil ratio has gradually increased, showing the gas is increasingly in the oil pay itself, and in his opinion cannot be successfully separated from the oil in the pay horizon; that any attempt to change or alter the present packer setting would result in the loss of the present gas shut off and likely to endanger the oil production in the oil pay;

That the gas tests taken by him are as follows:

Date	Gas-Oil Ratio
11-20-38	2584/1
12-10-38	2727/1
2- 7-39	3455/1
3- 7-39	3275/1
4- 4-39	4210/1
1-21-40	8696/1
2-29-40	15800/1
5- 8-40	12308/1
7- 8-40	13333/1

R. S. Gaston
Affiant

Subscribed and sworn to before me this 9 day of August, 1940.

Notary Public

My Commission Expires: Jan - 23, 1943

Exhibit "C"

A F F I D A V I T

STATE OF NEW MEXICO)
(SS
COUNTY OF LEA)

Comes now W. R. Hines, who upon his oath states:

That he is Drilling Superintendent for Two States Drilling Company in charge of the drilling of a well known as Two States Oil Company, Kaseman, et al, Stuart No. 1, located in the NW/4 SW/4 Section 11, Township 25 South, Range 37 East, Langlie Field, Lea County, New Mexico;

That said well was completed August 4, 1937, at a total depth of 3410 feet; that said well was tested at the time of completion and tested 107⅓ barrels of oil in 7 hours, with 100.000 cubic feet of gas per day, thereby being completed with a satisfactory gas-oil ratio.

That before said well was finally completed gas horizons were encountered at 3216-3232, 3,380,000 cubic feet of gas; 3246-3274, 10,000,000 cubic feet of gas; 3274-3317 slight increase of gas, all horizons making more than 10,000,000 cubic feet combined. That attempt was first made to set a packer to cut off the gas at 3320 feet and that this packer setting was unsuccessful, it being impossible to make this packer hold. That a second packer setting was made at 3317 feet and to make it hold it was set in heavy mud, the mud was swabbed out below the packer and left remaining above the packer, making this packer setting successful, and that it did and still does cut off the upper gas horizon.

That in his opinion this packer cannot be altered or moved without releasing the upper gas and possibly endangering the oil horizon. That it is quite impracticable, if not impossible, to make another packer setting again cutting off the upper gas and also reducing the gas in the oil pay horizon.

W. R. Hines
Affiant

Subscribed and sworn to before me this 9 day of August, 1940.

Notary Public

My commission expires:
Jan. 23, 1943

Exhibit "D"

A F F I D A V I T

STATE OF NEW MEXICO)
(SS
COUNTY OF LEA)

Comes now John Curtiss, who upon his oath states:

That he is employed by Two States Oil Company as lease man in charge of the production and switching on a well known as the Two States Oil Company, Kaseman, et al, Stuart No. 1, located in the NW/4 SW/4 Section 11, Township 25 South, Range 37 East, Langlie Field, Lea County, New Mexico. That he has been in charge of the production of said well since its completion. That said well in its early life had a satisfactory gas-oil ratio but that it has gradually increased in gas during the past 15 months until at present its gas-oil ratio is in excess of the permissible ratio of Gas-Oil Ratio Order issued in lieu of Order No. 250.

That in his opinion the increasing gas is due to gas increase in the oil pay itself, and in his opinion said gas cannot be satisfactorily separated from the oil in the pay; that the present packer setting is still good and holding by evidence of readings taken on the casing gauge; that in his opinion the packer setting cannot be changed or altered without releasing the upper gas and endangering the oil pay; that another packer setting is not likely to be successful in cutting off the upper gas and the gas in the oil pay;

That he has been in charge of other wells in the Langlie Field for the past five years and from his experience and observation gas is increasing in the oil sand in the entire area; and that it is practically impossible to separate this gas from the oil in the oil pay.

J. H. Curtiss

Subscribed and sworn to before me this 9 day of August, 1940.

Laugh A Bowden
Notary Public

My commission expires:

Jan. 23, 1943